PICTURE MAKING AT HOME

developing and printing

★ TOWER ★

OUR OWN TRADE MARK

DEVELOPING AND PRINTING EQUIPMENT

TOWER PHOTOGRAPHIC EQUIPMENT IS
SOLD ONLY BY SEARS, ROEBUCK AND CO.

follow through

Developing and printing is the natural follow-through of photography. Snapping a picture is fun—but it is only the beginning. Until you actually learn to follow through from film to finished picture you miss the satisfaction and thrill derived from an exciting job well done. To follow through, your first step is development of the exposed roll of film as it comes from your camera. After the negatives are developed they are ready for the next step—printing. It is a logical process with only a few steps from camera to album.

Film development and printing directly from negatives are explained and illustrated in detail on the following pages. Since there is considerable variation in developing and fixing times for various films and papers, exact processing times are not shown for each step. However, be sure to consult the labels on the materials used for specific directions.

This booklet, while not comprehensive on all phases of developing and printing, will serve as a useful guide for the beginner who takes pride in doing a job well. Together with TOWER Photographic Equipment, it has been designed to eliminate chance results.

It may be desirable to begin with printing directly from negatives to acquaint yourself with general darkroom procedures. In this case, a negative developed by a photo-finisher may be used. Later, as you become more familiar with darkroom procedures, you will be ready to start developing your own film. This is the more difficult of the procedures, but is the basic factor in producing good pictures. As you become more proficient, you will want to enlarge your better prints. Photography can become your hobby!

from camera to album

TOWER BEGINNER'S KIT

Contains following items necessary to help you learn how to print your own negatives:

- 1 Print frame (4 x 5 inches)
- 3 Trays (4 x 6 inches)
- 1 Combination stirring rod and thermometer
- 1 4 oz. glass graduate
- 2 Plastic film clips
- 1 Darkroom bulb
- 6 Packages M. Q. Developer (3 "A" and 3 "B")
- 1 Qt. Acid Fixer
- 25 Sheets printing paper (2¾ x 4½ inches)
- 1 Instruction booklet

TOWER DELUXE KIT

A complete kit to make picture developing and printing at home quick and easy, containing the following:

- 1 Contact printer with switch (UL approved)
- 1 Roll film tank
- 3 Trays (4 x 6 inches)
- 1 Combination stirring rod and thermometer
- 1 8 oz. glass graduate
- 2 Film clips
- 1 Darkroom bulb
- 6 Packages M. Q. Developer (3 "A" and 3 "B")
- 1 Qt. Fine Grain Film Developer
- 1 Qt. Acid Fixer
- 25 Sheets printing paper (2¾ x 4½ inches)
- 1 Instruction booklet

film development

MIXING CHEMICALS

Before starting to develop your negatives or print pictures, get the developing and fixing solutions and the rinse water ready. You will need two bottles, preferably of brown glass, for storing your solutions. You will also require a funnel and watch or timer.

Start by preparing the developer solution, following the directions on the package or can. When this solution is mixed it can be stored in one of the brown bottles. Then mix the fixing solution according to the label direction and pour it in the second brown bottle. Be sure these bottles are sufficiently large to hold the amount of prepared solution. It is advisable to have rinse water available in a bottle (clean milk bottle) for quick use. Always prepare enough developer or fixing solution to meet requirements for tank or tray film development or printing.

IMPORTANT: Film Developer Solution turns yellow and later brown from use or from being stored a long time. As soon as solution becomes discolored it should be discarded and a fresh solution prepared. Old or exhausted solutions produce stained prints. Fresh solutions should be stored in tightly-stoppered brown bottles, filled to the top. Film Fixing Solution should be stored in tightly-stoppered brown bottle and may be used until bubbles, sediment or discoloration appear. Then solution is exhausted and should be discarded and fresh solution made.

tank development

In tank developing, only the loading of the film into the tank requires complete darkness. Do this in any room that can be darkened completely. A clothes closet is usually ideal.

Begin by adjusting reel to width of film by pushing one side of reel in or out until you reach exact film size. In complete darkness separate paper backing from film. Start with outside groove of reel and slowly and gently wind film into grooves. Handle film by its edges to avoid fingerprints on film. DO NOT force film into grooves—but go slowly, and be sure all of film is wound on reel. Place loaded reel in tank and cover tank securely. After tank is covered white light may be turned on.

Pour Film Developer, prepared according to label instructions, into tank. Developer should be as near 68° F. as possible. Rotate reel in tank by slowly twisting agitator rod—do this for one minute at three-minute intervals for entire developing period. When development is completed (see timing on label)

tank development
(continued)

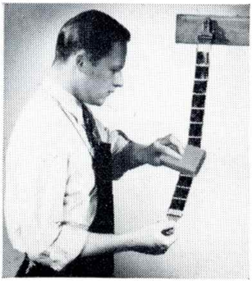
pour developer directly from tank into brown storage bottle. This developer may be used again if bottle is kept securely closed.

Pour clear rinse water, at a temperature of 68° F., into tank. Agitate a minute or two, then pour out.

Now pour fixing solution, prepared according to label instructions, into tank. Agitate solution to insure uniform fixing for length of time given on label.

Place reel and tank, with cover removed, in sink or bowl and wash for 30 minutes in running water, as near 68° F. as possible. Empty tank every few minutes to remove all fixer which tends to settle in the bottom. After washing, carefully unroll film from reel. Film emulsion is easily damaged when film is wet—so handle it with care. Attach film clips to both ends and suspend film by one clip.

Wipe film gently with a wet, fine-grain cellulose sponge or wad of wet cotton. (If water does not leave white deposit on film, it is not necessary to wipe film.) Allow film to dry thoroughly, keeping it away from dust and direct heat.



tray development

Before starting actual development by this method it is best to rehearse all steps in white light, using a practice roll of film.

Prepare a darkroom in which to work—any room that can be completely darkened will do, for it is necessary to exclude all light leaks for film development to prevent fogging film. For best results, avoid so far as possible, extremes of temperature and humidity.

If you are using TOWER Orthochromatic Film, Verichrome or Ansco Plenachrome, you may use a very weak red safelight. Kodak Plus X and Super XX, Ansco Supreme and other panchromatic film should be developed in total darkness.

Arrange trays conveniently in front of you—always keeping them in the same order so eventually you will be able to work in complete darkness. Put tray for developing solution on the left, tray for water rinse in the center, and tray for fixing solution on the right. Mix both developing and fixing solutions according to label instructions and pour into clearly labeled bottles. Keep all solutions as near 68° F. as possible for best results.

Pour developer in left-hand tray, water in center tray and fixer in right-hand tray—6 to 8 ounces in each case. Now, darken room entirely. Unroll exposed film and separate paper backing from film. Handle film carefully by its edges to avoid scratching and fingerprints. Film will remain in tight roll until it has been covered with developing solution several times, so it is easiest to start it in developing fluid by holding roll in tray with one hand and slowly pulling film out to its full length. Repeat this process a number of times, being sure to pull film out to its full length and

tray development (continued)

release back into roll SLOWLY. When film becomes pliable enough to remain in a long loop, grasp it carefully at both ends and with the dull side up pass loop of film through developer in a constant motion from end to end for exact time on label for developer.

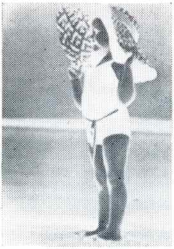
After development has been completed, rinse film in water in center tray for at least 30 seconds. Use same end-to-end motion used when passing film through developer solution.

When film is thoroughly rinsed, immerse it in fixing solution in right-hand tray. Use same end-to-end motion, passing film through fixing solution for full time designated on label. White lights are not harmful to film after it has been in fixing solution 5 minutes or more.

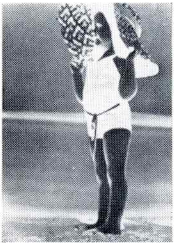
Wash film in running water at as near 68° F. as possible for not less than 30 minutes. If you do not have a mixing faucet and tap water runs cold, wash film for a longer time, for it takes longer to wash out fixer with cold water. If running water is not available, soak film at least 5 minutes in each of at least 8 changes of water. Avoid scratching film or touching emulsion side, which is very delicate when wet.

Suspend washed film by a film clip and hang from hook or nail. Remove water gently by wiping down film with a thoroughly wet, fine-pore cellulose sponge or wad of wet cotton. Dry film away from dust and direct heat. Leave clip at free end to keep film from curling. When film is dry, remove clips and cut between pictures if individual negatives are desired. Preserve negatives in individual envelopes to avoid scratching.

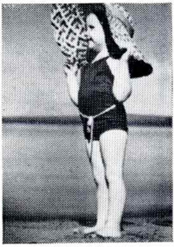
printing directly from negatives (contact printing)



FLAT NEGATIVE
Use Contrast Paper



NORMAL NEGATIVE
Use Normal Paper



NORMAL PRINT
From Either Negative
Using Correct Paper

Printing paper is made in different grades of contrast, because all negatives are not of the same contrast. Contrast is the difference in density between the light and dark areas on a negative or print. Some experience is necessary to judge at a glance whether a negative is flat or contrasty. Normal paper (No. 2) is used for printing normal negatives and is, therefore, used for the majority of prints. Personal taste will dictate the degree of contrast desired in the print.

With the printing paper selected and chemicals mixed you are ready to print the negatives. Arrange trays as in tray development of films. Work only under safelight. An amber safelight is used. Place negative, emulsion (dull) side up, in dust-free printing frame. Place a mask, cut from heavy black paper, on negative if you want white borders on print. Put a sheet of contrast print paper, shiny side down, on negative. Close frame and expose glass side of printing frame to a 40 or 50-watt light bulb placed about two feet from frame for about 2 seconds. If you have the deluxe kit, the printing box is wired, and all you have to do is snap on the light concealed in the box, about 2 seconds.

printing directly from negatives (contact printing)

After exposure, remove paper from frame and immerse quickly in developer solution. Rock tray gently, keeping paper under surface of solution. Follow label instructions to determine developing time.

Transfer prints quickly from developer to water in center tray. Rock tray for 30 seconds. Next place prints in fixing solution. Rock tray and keep prints separated during fixing time designated on label. One quart of fixing solution should fix about 200 prints.

To prevent fading and yellow stains, wash prints in running water from 30 to 60 minutes. If running water is not available, wash prints in 10 or 12 changes of fresh water, letting them soak about 5 minutes in each change of water.

continued

When thoroughly washed, remove prints from water. Gently wipe excess moisture from both sides of prints with ordinary towel—then put them face down on towel to dry.

If you wish a high gloss on prints you may wish to get a TOWER Ferrotype Plate and Print Roller. If you have these, dry prints face down on plate and eliminate bubbles by rolling over back of prints with a print roller.

printing hints

One of the biggest thrills in printing is to watch the image build up from blank paper. However, if it builds up too rapidly, the exposure period was too long. Next time try a shorter exposure period.

If exposure time is too short the picture will be too light. The remedy for this is longer printing time.

After you have printed a few pictures, you will be able to gauge printing time more accurately. Remember that negatives which let little light through will require more printing time.

WE RECOMMEND THE USE OF TOWER CAMERAS AND FILM AS WELL AS OTHER TOWER PHOTOGRAPHIC EQUIPMENT TO GIVE YOU THE BEST PICTURES POSSIBLE UNDER ANY CONDITIONS.

BE SURE OF
SUCCESS WITH TOWER